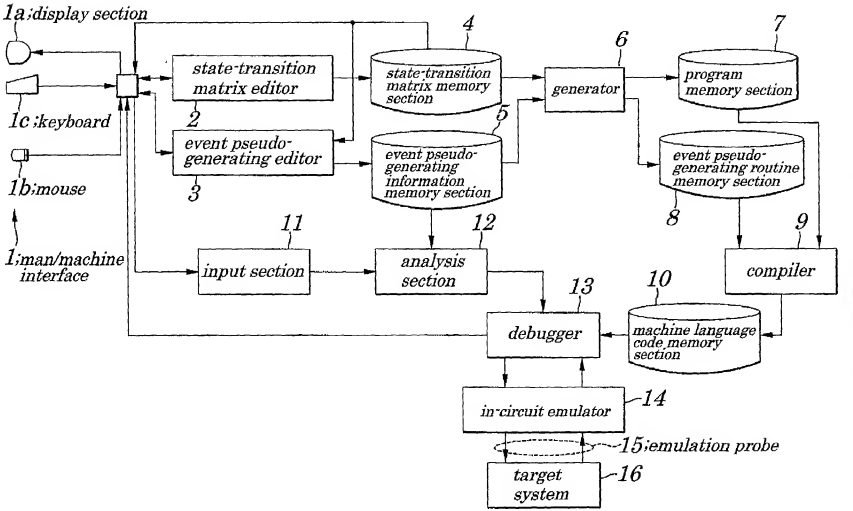
09/774,760

2001年1月30日 04:49 特許庁審査官 PROGRAM DEVELOPMENT APPARATUS, STORAGE MEDIUM STORING PROGRAM DEVELOPMENT PROGRAM AND PROGRAM DEVELOPMENT PROGRAM
Inventor(s): Kenji NUMATA
DOCKET NO.: 0450540135
NO. 8788 P. 19

FIG.1



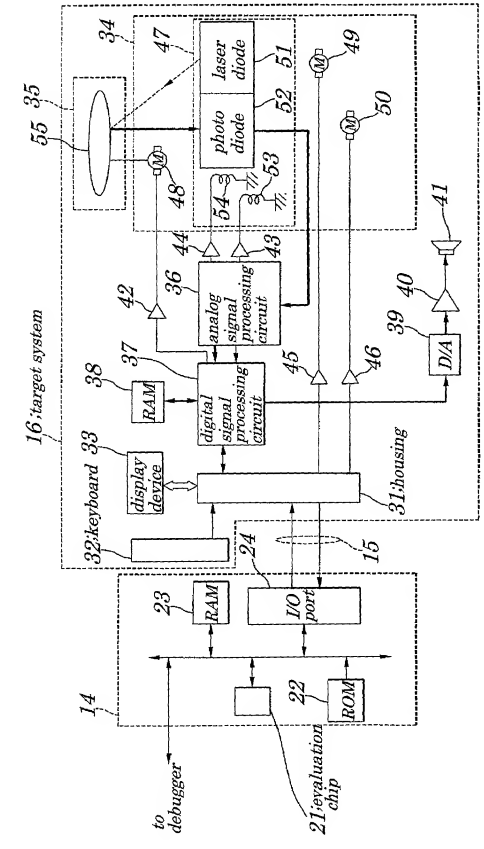

16:target system
34
47
laser diode
51
49
35
55
photo diode
52
50
53
48
54
41
44
43
42
36
analog signal processing circuit
40
39
37
45
46
D/A
38
RAM
digital signal processing circuit
33
display device
31:housing
32:keyboard
24
15
23
RAM
I/O port
14
22
ROM
to debugger
21:evaluation chip

FIG.2

FIG.3

			stopping	tray opening	TOC reading	time code displaying	moving to first music	moving to second music	reproducing
		E \ S	1	2	3	4	5	6	7
tray key input		1	T motor: clockwise ON	T motor; counterclockwise ON ⇒ -	X	X	X	X	X
S1:OFF→ON		2	T motor: OFF ⇒ tray opening	/	X	X	X	X	X
S1:OFF→ON		3	/	T motor:OFF F motor:ON TOC reading ⇒ TOC reading	/	/	/	/	/
TOC input	OK	4	/	/	F motor:OFF time code display ⇒ time code displaying	/	/	/	/
	NG	5	/	/	F motor:OFF ⇒ stopping	/	/	/	/
search key input		6	/	/	/	F motor:ON search process to first music ⇒ moving to first music	search process to second music ⇒ moving to second music	X	X
play key input		7	/	X	X	X	X	reproducing process ⇒ reproducing	/
stop key input		8	/	/	/	X	X	X	F motor:OFF stopping process ⇒ stopping

FIG.4

```
rcv_msg(ReceiveEvent, KEY_MSG);
if(ReceiveEvent == PLAY_KEY)
{
    reproducing process
}
else if(ReceiveEvent == STOP_KEY)
{
stopping process
}
```

FIG.5

```
if(FakeEvent == EVENT_KEY_PLAY)
{
    SendEvent = PLAY_KEY;
    snd_msg(KEY_MSG, SendEvent);
}
else if(FakeEvent == EVENT_KEY_STOP)
{
    SendEvent = STOP_KEY;
    snd_msg(KEY_MSG, SendEvent);
}
```

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FIG.6

			stopping	tray opening	TOC reading	time code displaying	moving to first music	moving to second music	reproducing	emulation
			1	2	3	4	5	6	7	start / finish
tray key input	1		T motor: clock wise ON	T motor: counterclock wise ON ⇒	X	X	X	X	X	
S1:OFF→ ON	2		T motor: OFF→tray opening	/	X	X	X	X	X	
S1:OFF→ ON	3		/	T motor:OFF F motor:ON TOC reading ⇒ TOC reading	/	/	/	/	/	
TOC input	OK	4	/	/	F motor:OFF time code display ⇒ time code displaying	/	/	/	/	
	NG	5	/	/	F motor:OFF ⇒ stopping	/	/	/	/	current state: moving to second music
search key input		6	/	/	/	F motor:ON search process to first music ⇒ moving to first music	search process to second music ⇒ moving To second music	X	X	
play key input		7	/	X	X	X	X	reproducing process ⇒ reproducing	/	
stop key input		8	/	/	/	X	X	X	F motor:OFF stopping process ⇒ stopping	

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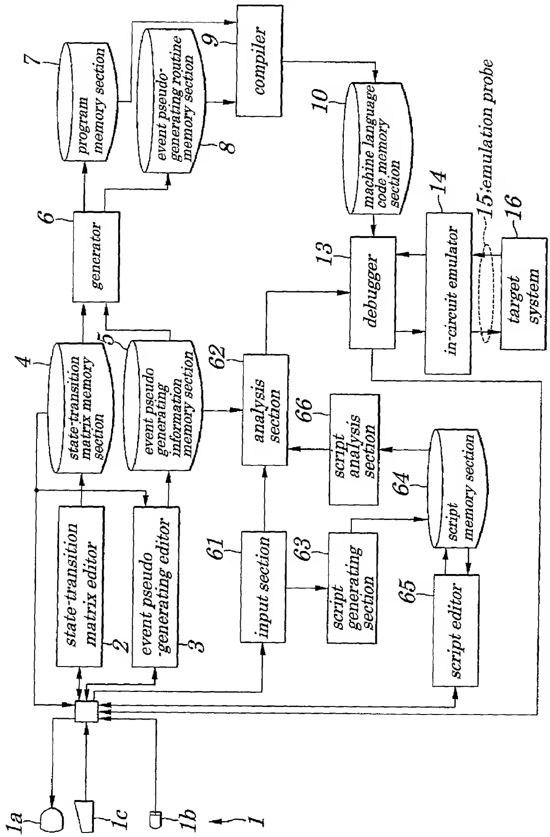
FIG.7


1a
1c
1b
1
state-transition matrix editor
2
event pseudo generating editor
3
state-transition matrix memory section
4
event pseudo generating information memory section
5
generator
6
program memory section
7
event pseudo-generating routine memory section
8
9
compiler
10
machine language code memory section
input section
61
analysis section
62
script generating section
63
script memory section
64
script editor
65
script analysis section
66
debugger
13
in-circuit emulator
14
15;emulation probe
target system
16